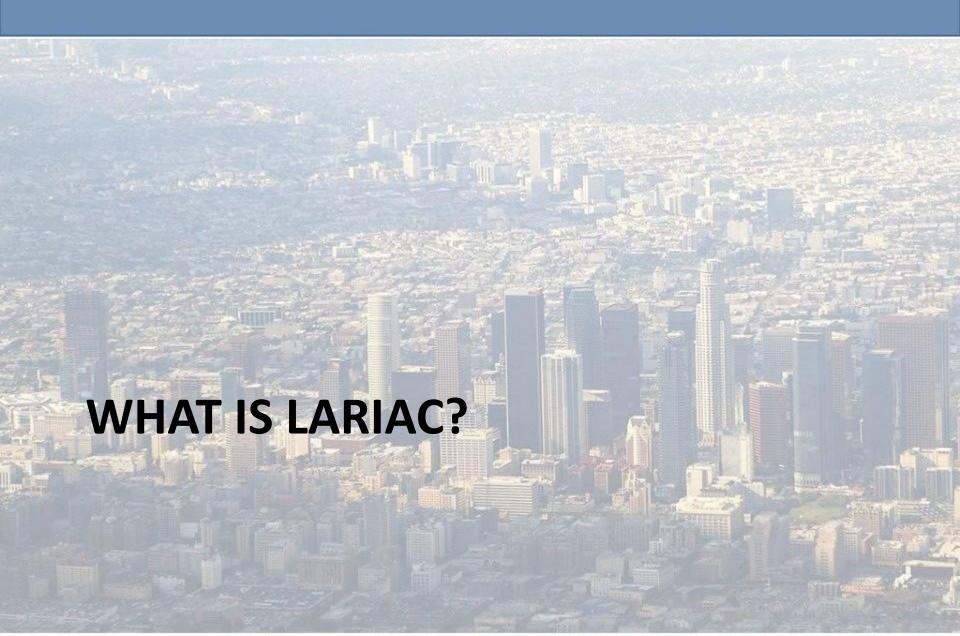
LAR-IAC4 Status and User Group Meeting

April 28, 2014



Agenda

- LARIAC Status Update
 - LA County
 - Sanborn
 - Dewberry
- LARIAC User Group Meeting
 - Automated Feature Extraction
 - LARIAC Training Options
 - Street Level Imagery



What is LAR-IAC?

 Los Angeles Regional Imagery Acquisition Consortium (LAR-IAC)

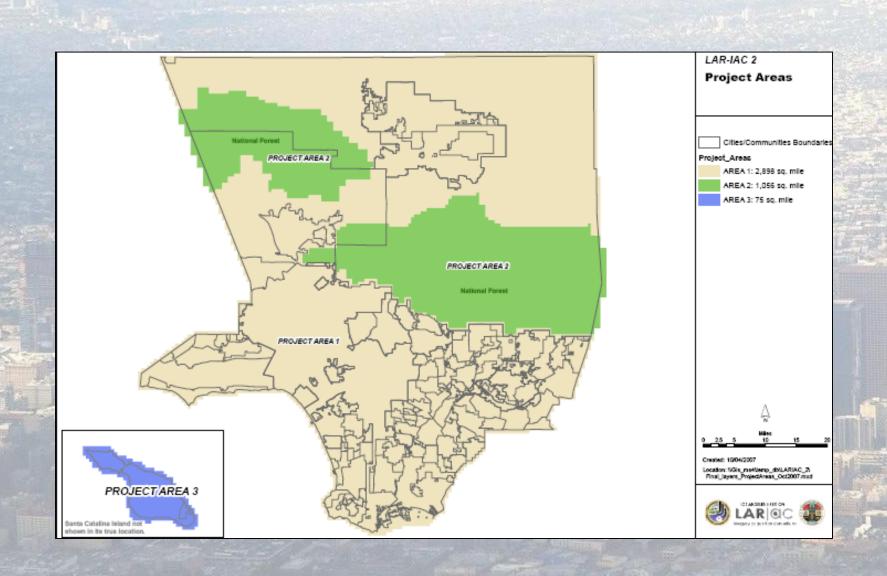
"LAR-IAC is multi-jurisdictional purchasing arrangement that enables participating local governments and agencies to benefit from combined economies of scale to efficiently and cost-effectively acquire high definition aerial data."

 Established in 2003 by LA County Regional Planning and Chief Information Office.

Geographic Scope

- Los Angeles County
 - 4,083 sq. miles plus small buffer area
- Split into regions
 - Area #1 (Urban)
 - Project area covers approximately 3,000 sq. miles
 - Area #2 (National Forest)
 - Project area covers approximately 1,050 sq. miles

LARIAC Geographic Scope

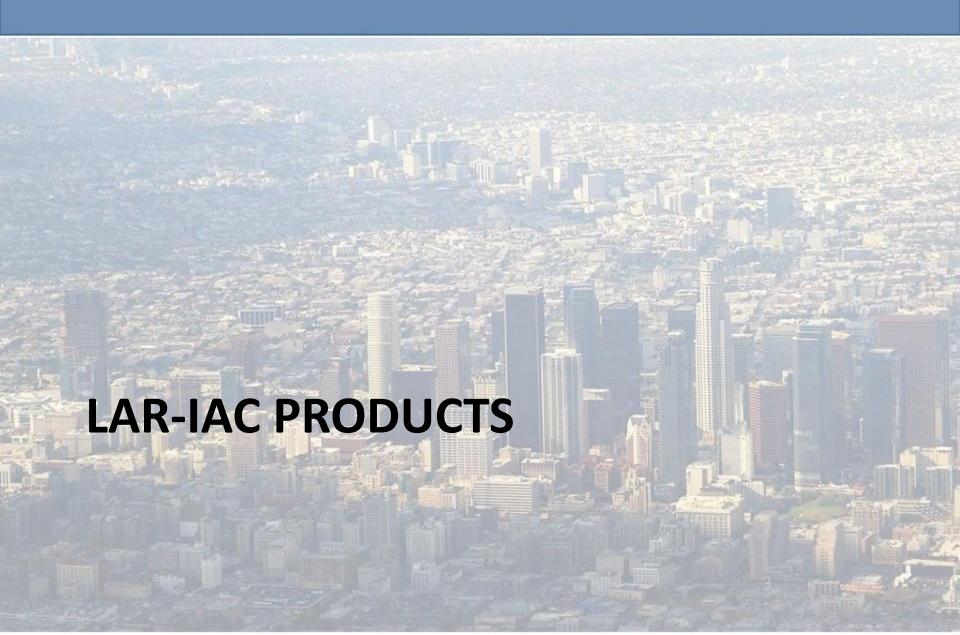


Why LAR-IAC?

- Share costs
 - As more participants join, the cost for each participant falls.
- Lower costs
 - Economies of scale lower acquisition costs per square mile.
 - More products, better accuracy, larger area

LAR-IAC is data

- LAR-IAC provides geographic data that forms the foundation of geo-spatial decision making and analysis.
- All Digital Aerial data
 - Orthogonal imagery
 - Oblique imagery
 - Building Outlines
 - Digital Terrain Data (Elevation)
- LAR-IAC now includes access methods too.
 - Less work to benefit.



Orthogonal Imagery

Also known as "Satellite View"

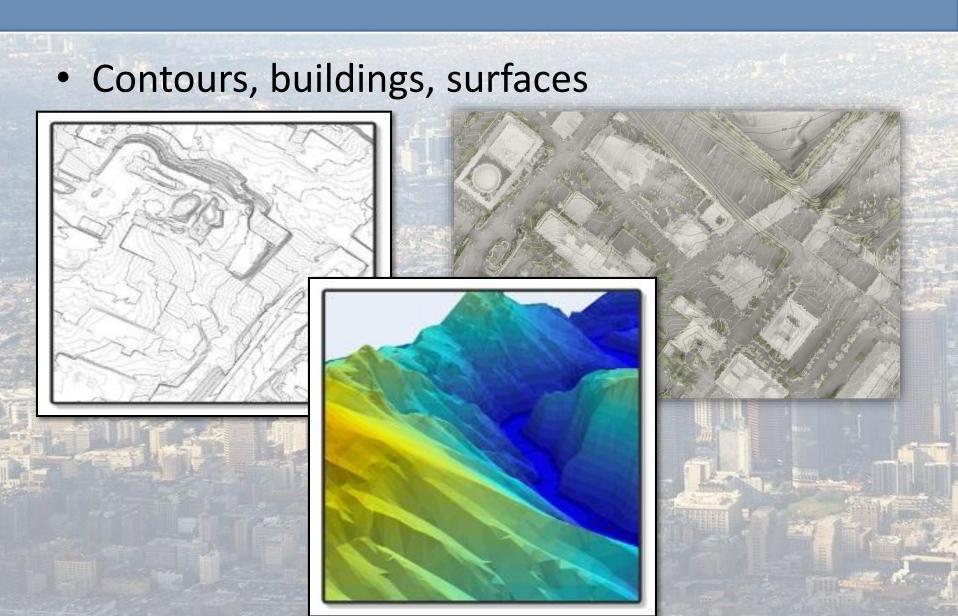


Oblique Imagery

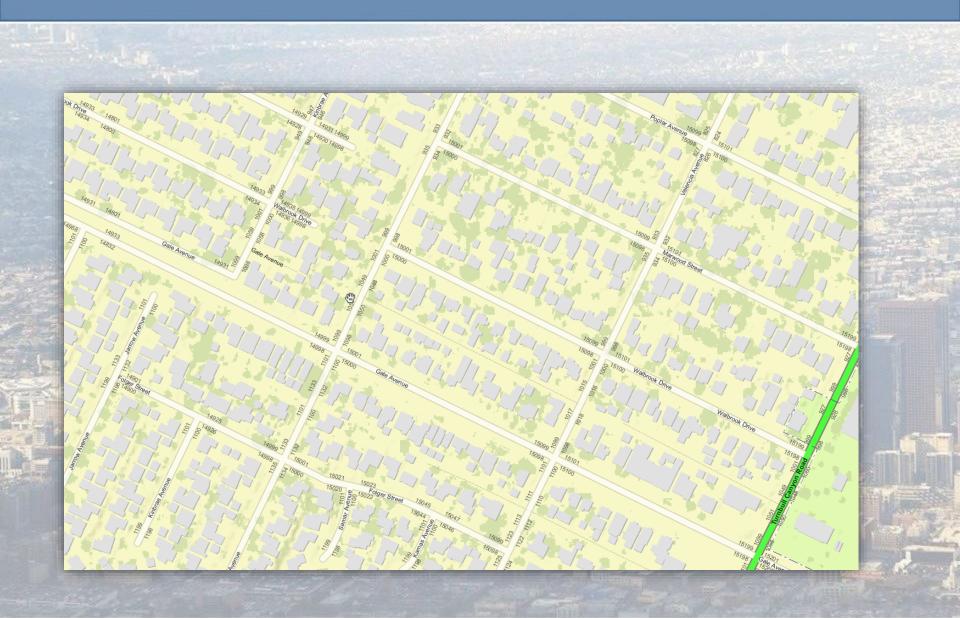
Also known as "birds eye"

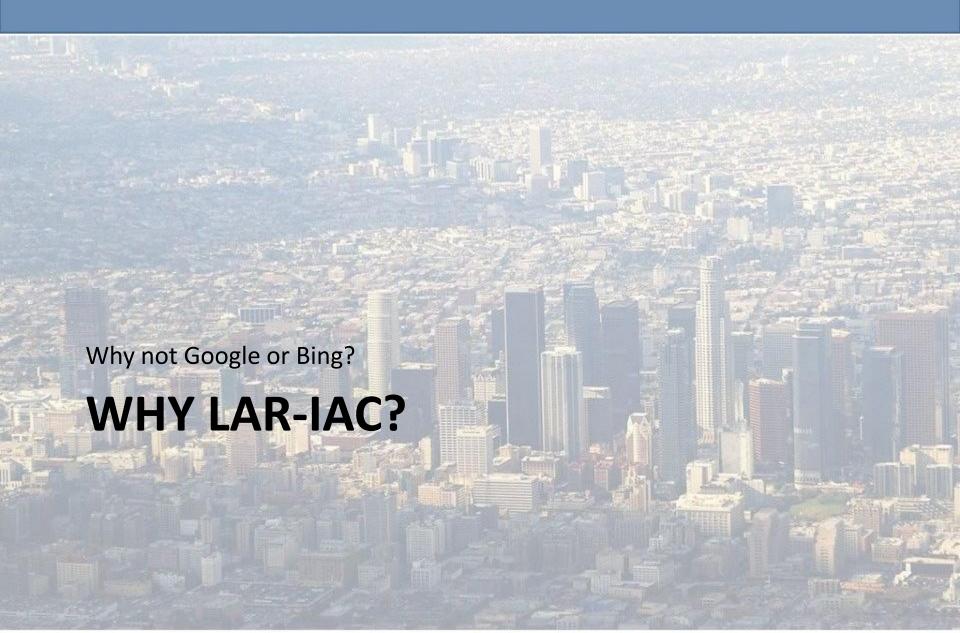


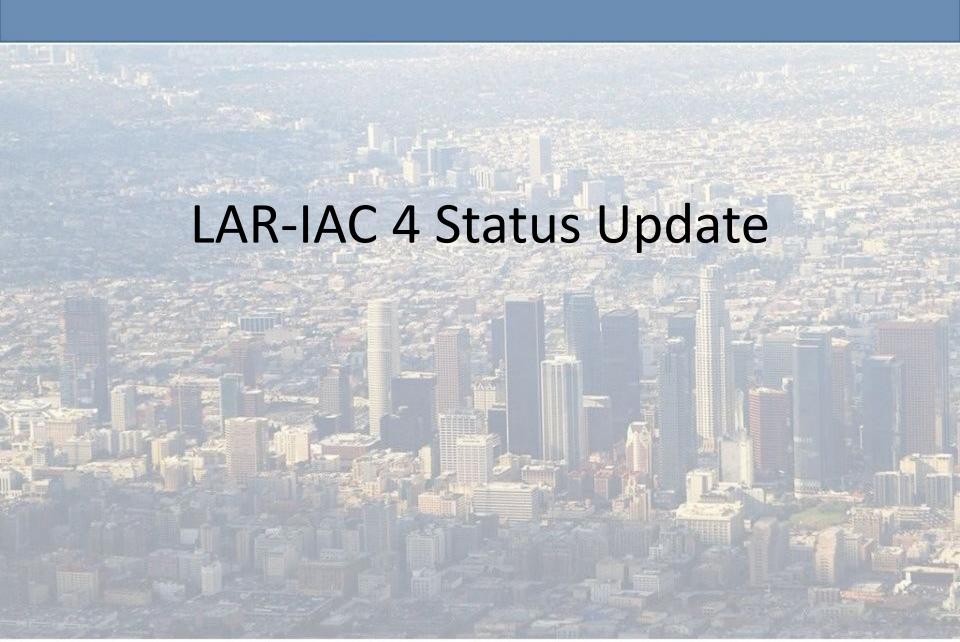
Elevation Data



Building Outlines







LAR-IAC4 Product Matrix

		er i uliter.			
<u>Data Types</u>	LARIAC1	LARIAC2	LARIAC3	LARIAC4	
Odbogonol In// in-b	2006	2008	2011	2014	
Orthogonal Imagery (4-inch)	X (including Infrared)	X	Х	X (including Infrared and 1-foot imagery from 2012 and 2013)	
Oblique Imagery	х	X	X	х	
Building Outlines		X		x	
Elevation Data	х			X	
Derived Data Tree Canopy Solar Insolation NDVI (Permeability) Slope Hillshade Height	Х	Yes		Х	

Data Delivery Formats

Delivery Product	Format 1	Format 2	Format 3
Orthophoto (color) (4" and 1')	GeoTIFF & JPG2000	SDE Export/ File Geodatabase	ECW mosaics
Pictometry oblique imagery (4" and 1')	Medium Compressed JPG format	Online Access	
Building Ootlines	ArcGIS shapefile	ArcGIS Shapefile of new construction, changes, and demolition	
Digital Terrain Model	.las format files (RAW)	Digital Elevation and Surface model (rasters)	Other related formats

Changes from LAR-IAC1

- More products, more accuracy, faster, easier
 - 2012 and 2013 imagery included (1 foot)
 - 6 month turnaround
 - Online access
 - 2 foot contours → 1 foot contours
 - Addition of building outlines
- Less expensive
 - $-$5.8 \text{ million} \rightarrow $4.2 \text{ million (est.)}$
 - ~30% price reduction compared to LAR-IAC1

LAR-IAC4 adding Services

- Moving from data to direct access
 - Orthophotography
 - Map services hosted by LA County
 - Oblique Imagery
 - Online Access
 - iPhone application
 - Embeddable widgets for your websites
 - Building Outlines
 - Change detection (find unpermitted additions)
 - Digital Terrain Data
 - Derived products included (NDVI, Solar model, etc).

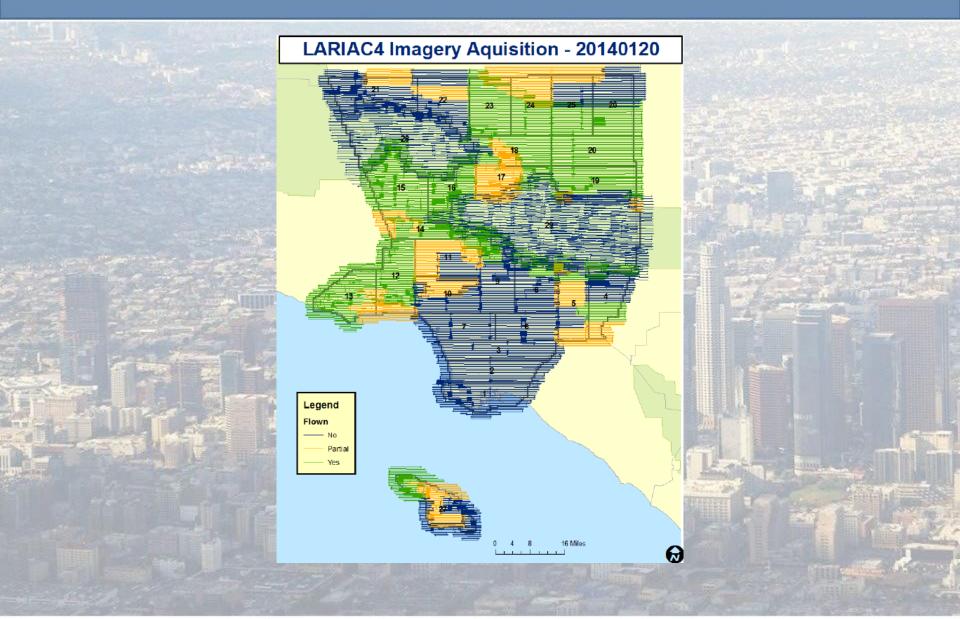
Simplified Schedule

- September negotiate contract (in progress)
- October 2013 establish bridge funding
- November complete contracts (all firms)
- December start flying and processing
- March 2014 flying completed
- April July 2014 QC underway
- September 2014 delivery underway

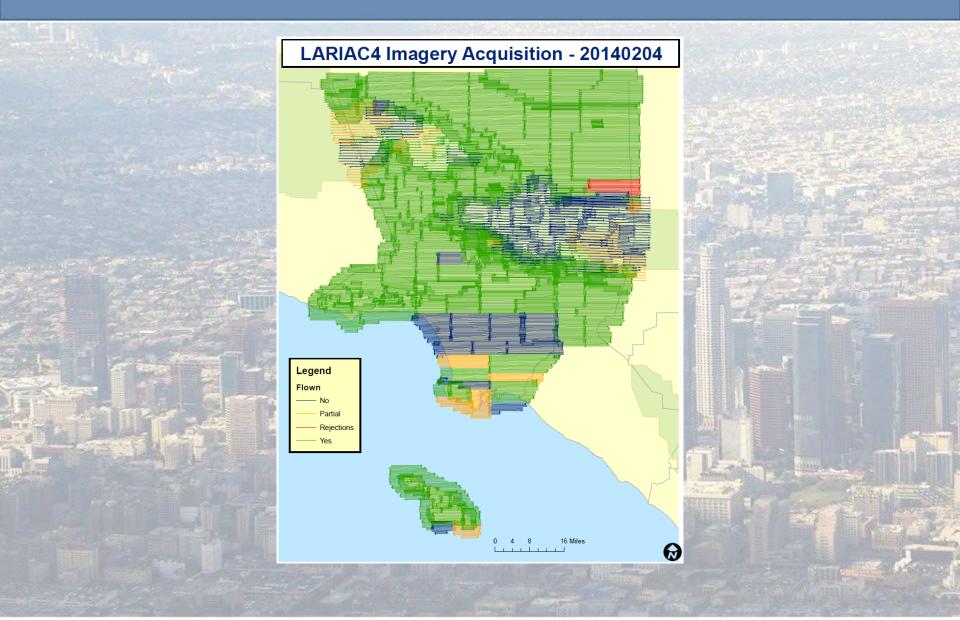
Technical Steps



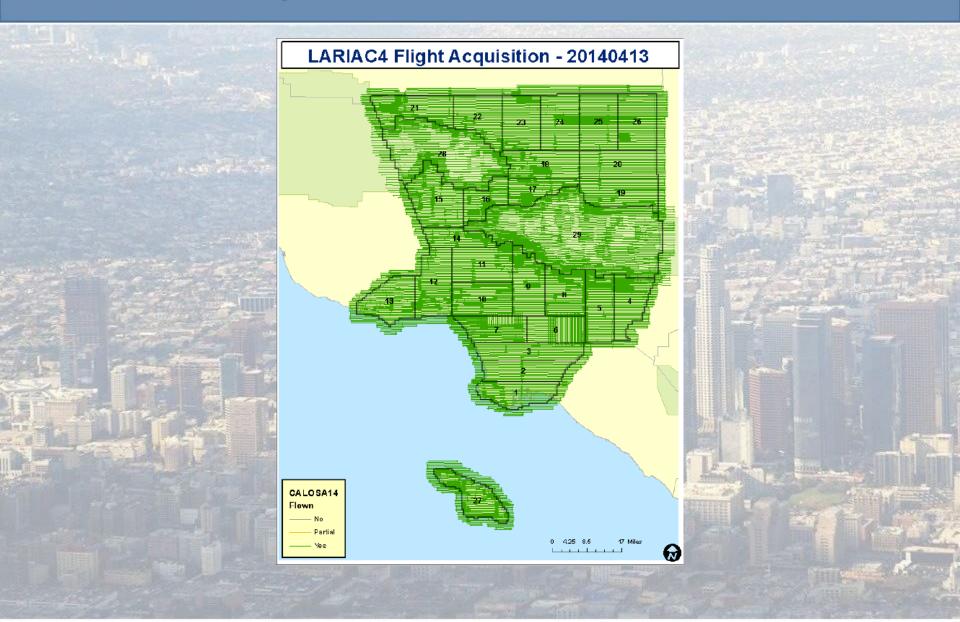
Flight Status - January



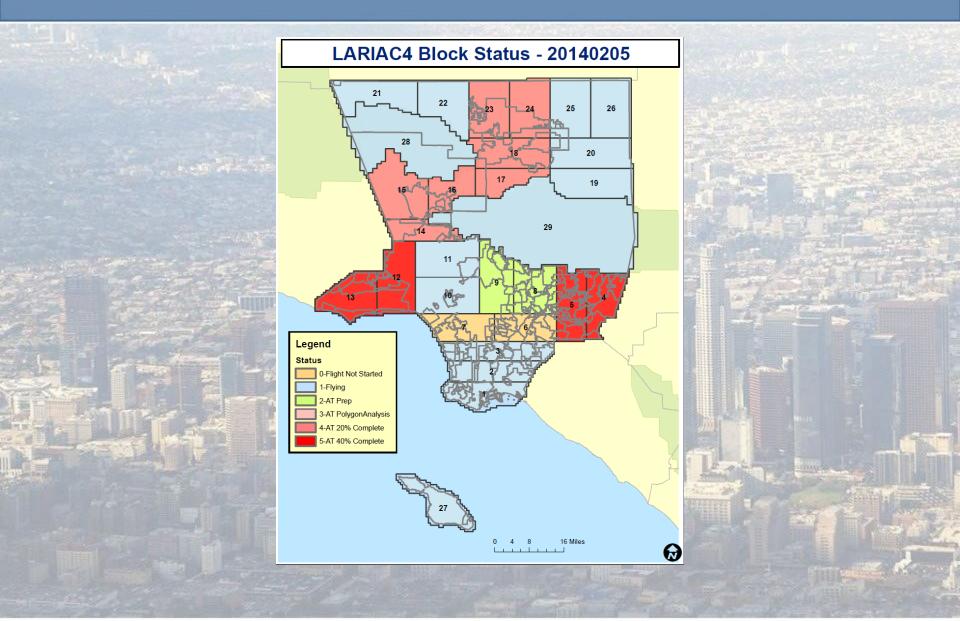
Flight Status - February



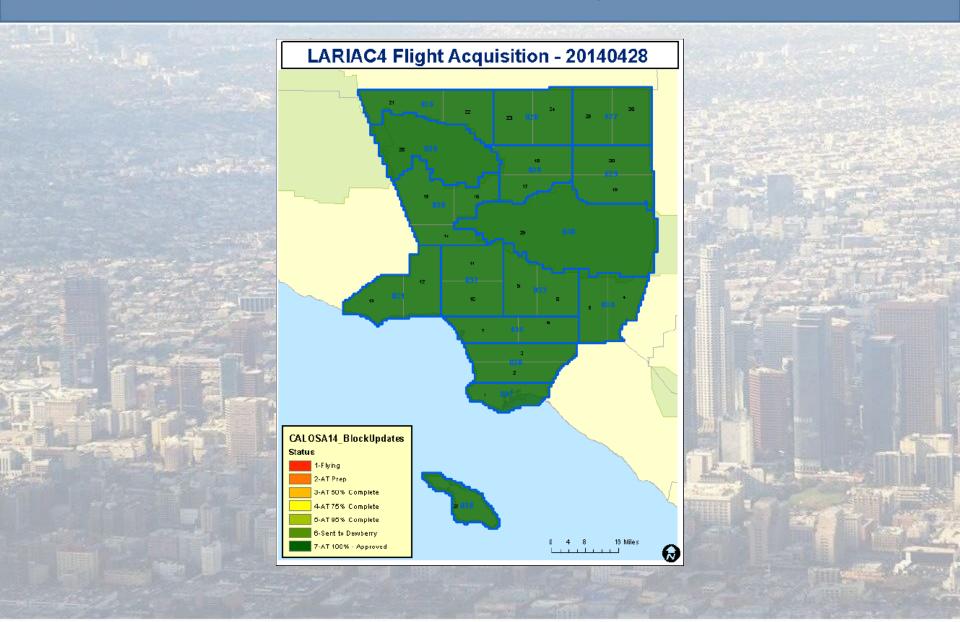
Flight Status - Current



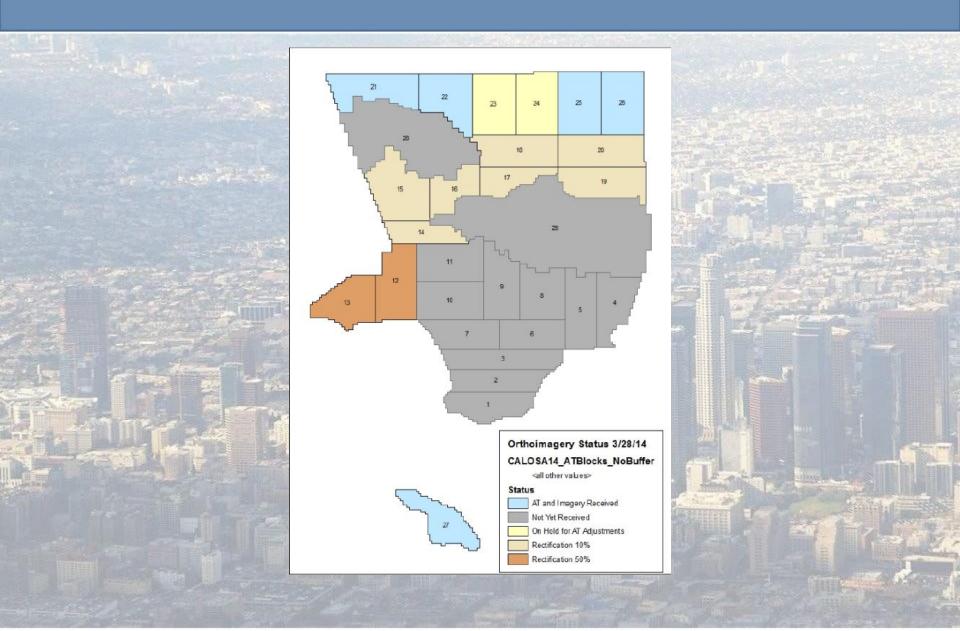
AT Status - February



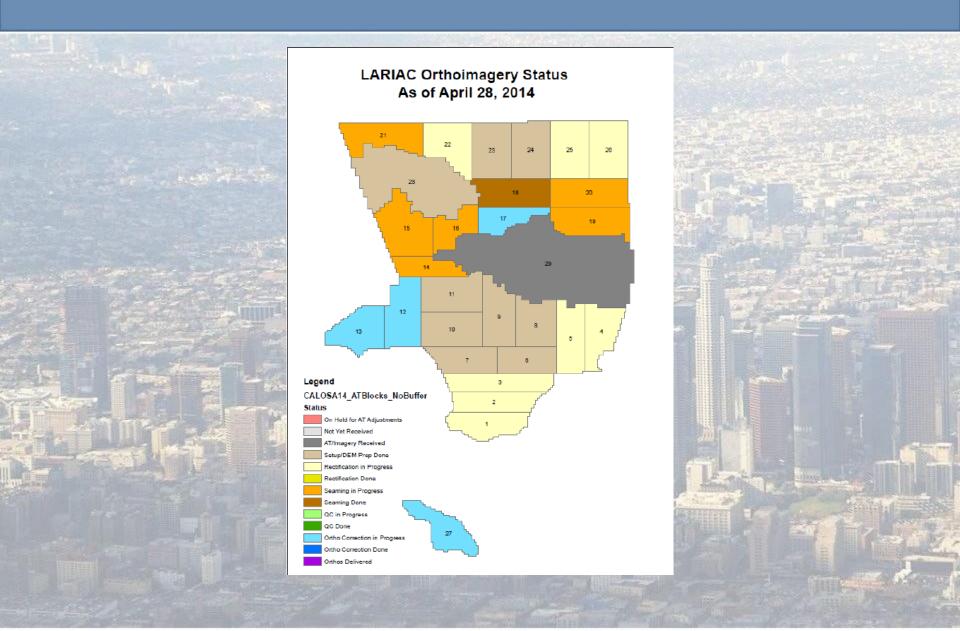
AT Status - April



Rectification Status – March



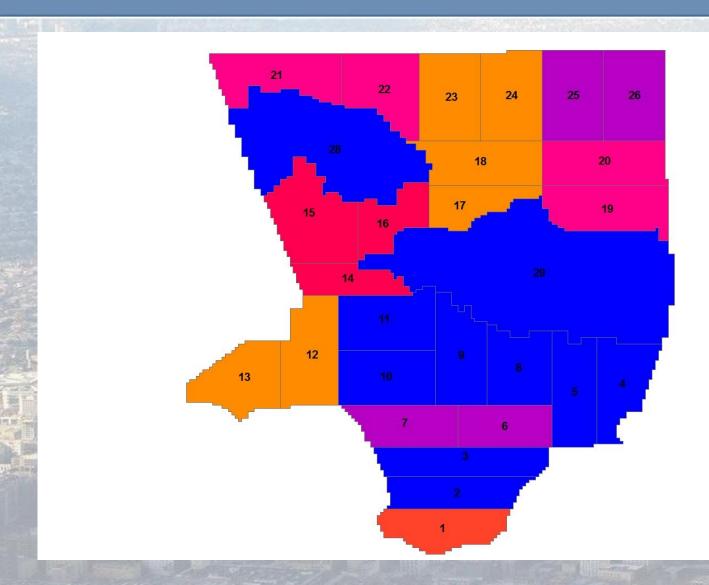
Rectification Status – Current



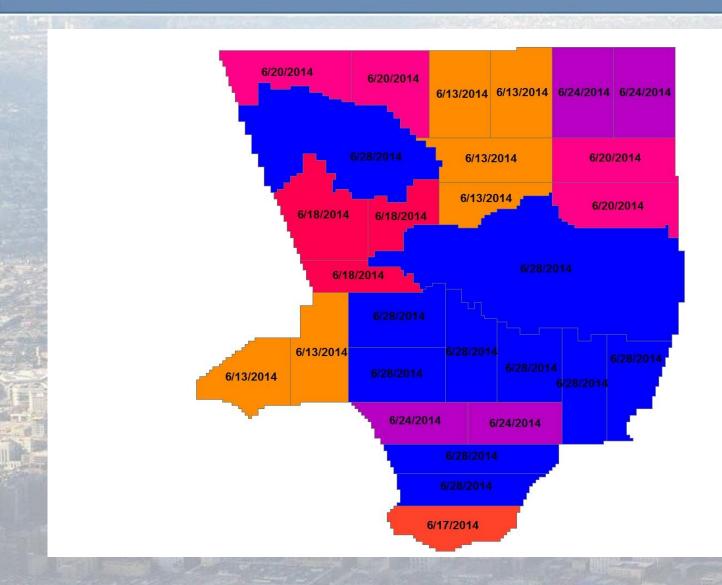
Estimated Deliveries

Orthogonal Imagery Details and Schedule By Block										
	AT Block(s)	Est. Total Ortho Frame Count	AT Start*	AT Block Completion*	AT Completion	AT Approved	Drive Shipped to Sanborn	Ortho Delivery*	Ortho Delivery *New	Ortho Completion
	21,22	14,630	8-Feb	22-Mar	1 8-Mar	21-Mar	13-Mar	20-Jun	20-Jun	
- 4	23, 24	13,063	25-Jan	8-Mar	18-Mar		13-Mar	6-Jun	13-Jun	
North - 4"	25, 26	13,250	18-Jan	26-Mar	28-Feb	6-Mar	13-Mar	24-Jun	24-Jun	
No	17, 18	13,361	15-Feb	8-Mar	3-Mar	7-Mar	13-Mar	6-Jun	13-Jun	
	19,20	14,500	1-Feb	22-Mar	13-Mar	17-Mar	13-Mar	20-Jun	20-Jun	
Central	14, 15, 16	20,151	15-Feb	13-Mar	28-Feb	4-Mar	13-Mar	11-Jun	18-Jun	
	12,13	16,076	18-Jan	8-Mar	6-Mar	14-Mar	13-Mar	6-Jun	13-Jun	
	10,11	14,641	15 -Mar	8-Apr				27-Jun	28-Jun	
South - 4"	8,9	14,365	22-Feb	7-Apr				27-Jun	28-Jun	
횰	4, 5	14,324	25-Jan	13-Mar				11-Jun	28-Jun	
Sou	6,7	9,943	8-Feb	15-Арг				24-Jun	24-Jun	
	2,3	11,192	22-Feb	7-Apr				27-Jun	28-Jun	
	1	5,902	22-Feb	8-Apr				17-Jun	17-Jun	
Catalina	27	7,200	8-Feb	13-Mar	18-Mar	24-Mar	13-Mar	22-May	31-May	
	28	5,089	10-Apr	10-Apr	28-Mar		28-Mar	27-Jun	28-Jun	
orest - 12"***	29	10,206	10-Apr	10-Apr				27-Jun	28-Jun	
Estimated tim	eframe									

Delivery by Area



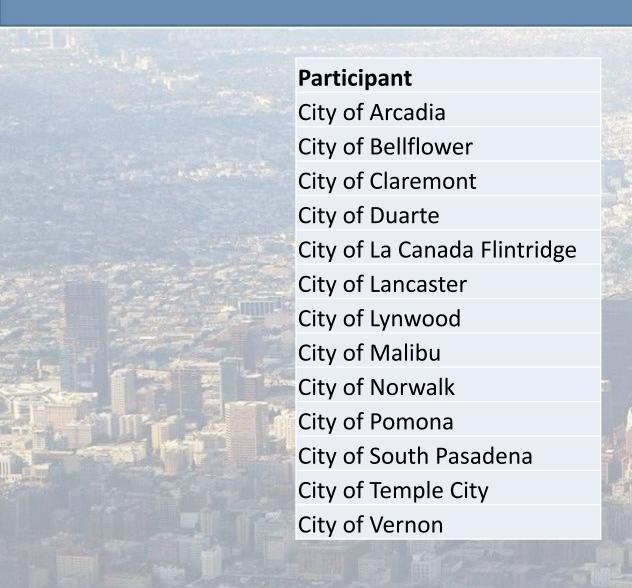
Delivery by Date



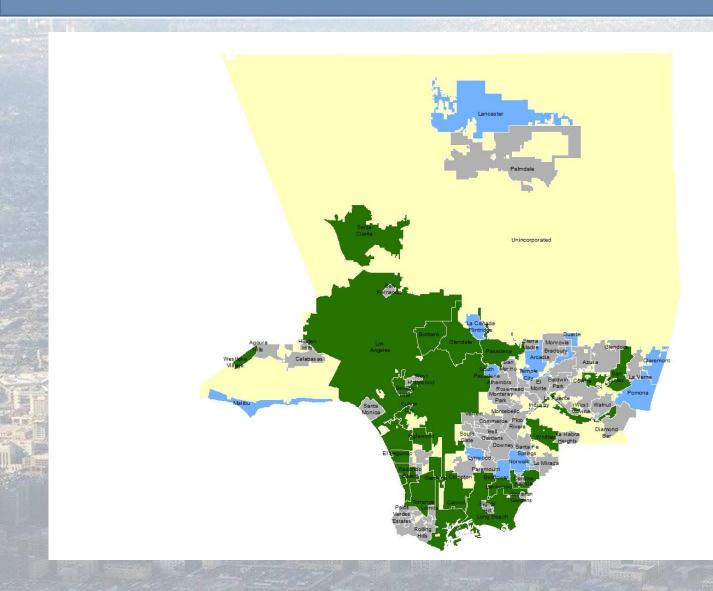
Current Status

Participant	LOI	Participant	LOI
LA County Sanitation Districts	Χ	City of Beverly Hills	Χ
Los Angeles Air Force Base	Χ	City of Burbank	Χ
Catalina Island Conservancy	Χ	City of Carson	Χ
US Geological Survey	Χ	City of Cerritos	Χ
Los Angeles County	Χ	City of Covina	Χ
Rio Hondo Community College	Χ	City of Culver City	Χ
California State University Long Beach	Χ	City of El Segundo	Χ
California Polytechincal University Pomona	Χ	City of Gardena	Χ
Newhall Land and Farming	Χ	City of Glendale	Χ
California Department of Transportation	I	City of Hermosa Beach	Χ
Las Virgenes Municipal Water District	I	City of Industry	Χ
Los Angeles County Metropolitan Transit Authority	I	City of Inglewood	Χ
Loyola Marymount University	I	City of Lakewood	Χ
Suburban Water System	I	City of Long Beach	Χ
		City of Los Angeles	Χ
		City of Manhattan Beach	Χ
		City of Pasadena	Χ
		City of Redondo Beach	Χ
		City of San Dimas	Χ
		City of Santa Clarita	Χ
		City of Santa Monica	Χ
		City of Torrance	Χ
		City of Westlake Village	Χ
		City of Whittier	Χ

Interested Cities



Current City Status

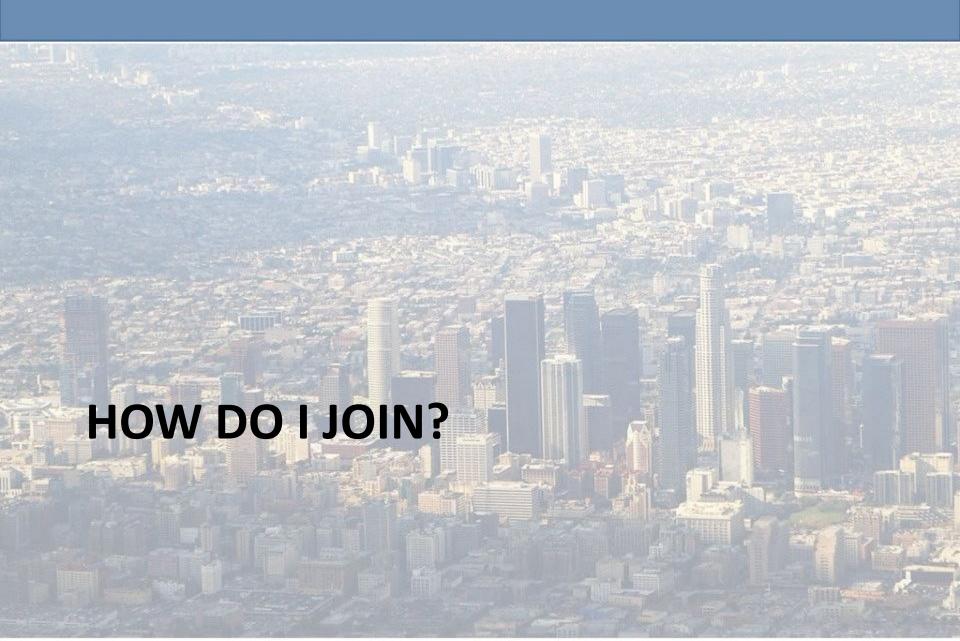


Current Finances

- \$3.75 million in commitments
 - \$1.3 million received
- Current LARIAC4 costs \$2.85 million
- LIDAR costs: \$1.5 million
 - Need in additional commitments to \$600,000 to authorize LIDAR flights.

Other notes

 POL shutdown for non-LARIAC4 participants - May 31, 2014 Map services available - 2012 and 2013 map services available



How do I Join?

- Letter of Intent
 - Informs the County that your agency intends to budget for LAR-IAC participation.



SAMPLE LETTER OF INTENT

<Current Date>

Mr. Richard Sanchez, Chief Information Officer County of Los Angeles World Trade Center 350 S. Figueroa St., Suite 188 Los Angeles, CA 90071

Dear Mr. Sanchez:

It is our intent to participate in the 2013-14 Los Angeles Region Imagery Acquisition Consortium (LAR-IAC4). LAR-IAC4 will acquire 4-inch color orthogonal, 4-inch oblique aerial photography, building representations (outlines), and digital terrain data. We understand the estimated cost will not exceed \$XXXXXXX. Recognizing that our final commitment is contingent upon approval, it is understood that this approval must be obtained prior to confirming our participation in this project.

If you have questions, please contact < Name and Title of Primary Contact> at <Telephone, Fax and E-mail Address>.

Sincerely,	
Signature	Print Name
Title	 Date

- Participant Agreement
 - Commits your agency to pay your share of LAR-IAC and "join the team"
 - Can make two payments over two fiscal years (one

PARTICIPANT AGREEMENT BY AND BETWEEN
THE COUNTY OF LOS ANGELES AND PARTICIPATING ENTITIES
FOR THE
S ANGELES REGION - IMAGERY ACQUISITION CONSORTIUM 4 ("I AR-

LOS ANGELES REGION - IMAGERY ACQUISITION CONSORTIUM 4 ("LAR-IAC4") PROGRAM

This Participant Agreement (Agreement) is made and entered into by and between the County of Los Angeles, a political subdivision of the State of California (County), and XXXXXX, a California city, special district, or agency. Each individual city, district, or agency is referred to herein individually as a "Participating Entitiv" and collectively as the "Participating Entities" and each individually as a "Particy as the "Partice" and each individually as a "Party."

- WHEREAS, County has planned to acquire new digital orthogonal and oblique aerial imagery in the winter of 2013-2014 ("Project");
- WHEREAS, County has become aware that various Participating Entities have similar projects currently underway or plans to undertake similar projects in the near future;
- WHEREAS, in order to avoid the duplication of efforts and costs by the Parties, the Parties desire to pool their resources to collectively undertake the Project; and
- D. WHEREAS, the Parties intend to participate in the Project upon the terms and conditions set forth herein below.

NOW, THEREFORE, in consideration of the mutual covenants herein set forth and the mutual benefits to be derived therefrom, the Parties agree as follows:

1. Purpose

The purpose of this Agreement is to provide a vehicle for the collective participation in the Project by the Parties. The Project shall focus on the acquisition of certain aerial imagery digital data which may include, but are not limited to, products listed in Attachment A ("Digital Data"). It is the intent of the Parties that Digital Data shall be acquired under this Agreement for areas within the County of Los Angeles covered by the jurisdictions of the Parties.



Participant Agreement

- Three important areas:
 - Pages 1-5 are the agreement
 - Agreement between agency and County about costs.
 - Counter-signatures on Page 5.
 - Attachment A lists the data products
 - Attachment A.1 allows you to contract for additional services
 - County allows "Optional Items" for participants.
 - 3D buildings, curb lines, etc.
 - A sub-contract between you and the vendor
 - Attachment B is between you and your contractor.
 - It protects you in case they use the information improperly.

Distribution and Sub-licensing

- Distribution
 - 4-inch orthos can be displayed on the Internet
 - Oblique imagery can be shown on the Internet
 - Note: measurement tools for internal use only
- Licensing
 - Participant Agreement
 - Sub-licensing
 - One simplified form to cover all data products for subcontractors

Staying Up-To-Date With Project

- Meetings
 - Briefing Meetings (every other month)
 - Technical Advisory Group (as necessary)
 - User Group Meetings (quarterly)

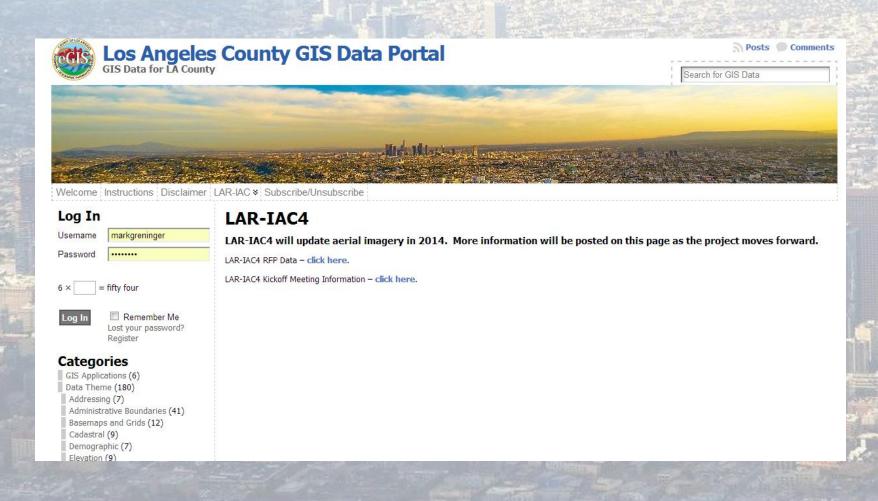
- Documents
 - Participant Agreement
 - Status Reports

Contact Information

- Project Director
 Mark Greninger, County GIO
 mgreninger@cio.lacounty.gov (213) 253-5624
- Outreach Manager
 Nick Franchino, GIS Manager, Regional Planning Dept.
 nfranchino@planning.lacounty.gov (213) 893-0881

LAR-IAC Project Web Site

http://egis3.lacounty.gov/dataportal/lariac/lar-iac4/



Test Drive!

To view LARIAC data in action visit the LA County GIS Viewer

http://gis.lacounty.gov/gisviewer

Access to Pictometry Online

Go to: http://pol.pictometry.com

Email Address: test@lariac.gov

Password: 4lariac4test!

Los Angeles Region — Imagery Acquisition Consortium (LAR-IAC4)

Questions/Comments?



Prepared by: Los Angeles County